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**BIOGRAPHICAL SKETCH**

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NAME <b>Gershoni, Jonathan Michael</b>		POSITION TITLE Professor of Cell Research and Immunology	
eRA COMMONS USER NAME <b>gershoni</b>			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Hebrew University of Jerusalem	BSc	1975	Biology
Hebrew University of Jerusalem	PhD	1980	Biochemistry

**A. Positions and Honors.****Positions and Employment**

1980-1983 Research Associate, Yale University School of Medicine, New Haven CT  
1983-1985 Research Fellow, Dept. Biophysics, Weizmann Institute of Science, Rehovot, Israel  
1985-1987 Senior Scientist, Dept. Biophysics, Weizmann Institute of Science, Rehovot, Israel  
1987-1990 Associate Professor, Dept. Biophysics, Weizmann Institute of Science, Rehovot, Israel  
1988-1990 Visiting Scientist, Laboratory of Tumor Cell Biology, NCI NIH, Bethesda MD  
1990-1998 Associate Professor, Dept. Cell Research & Immunology, Tel Aviv Univ., Tel Aviv, Israel  
1995-Date Tenure, Dept. Cell Research & Immunology, Tel Aviv University, Tel Aviv, Israel  
1998-Date Professor, Dept. Cell Research & Immunology, Tel Aviv University, Tel Aviv, Israel  
2006-Date Adjunct Professor, Dept. of Physics, Boston University, Boston MA

**Other Experience and Professional Memberships**

1986 - 2004 Editorial Board - Analytical Biochemistry  
1993 - 1997 Chairman - Faculty curriculum committee  
1997 - 1998 Acting CEO - International BiImmune Systems, NY  
2001 - 2004 Chairman - Faculty curriculum committee  
2001 - 2008 Scientific Advisory Board - Novartis Foundation  
2002 - 2004 Director - Laura Schwarz-Kipp Institute of Biotechnology  
2002 - 2004 Chairman - Board of Directors, Israel AIDS Task Force  
2003 - 2006 Chairman - Department of Cell Research and Immunology

**Honors**

1980-1982 The Chaim Weizmann Postdoctoral Fellowship  
1983-1984 The Batsheva De Rothschild Fellowship  
1985 Short-term EMBO Fellowship  
1985-1988 The Yigal Alon Fellowship  
2000 Tel Aviv University Rector's Prize – Outstanding Teacher of the Year  
2008 Incumbent of the David Furman chair in Immunobiology of Cancer

**Selected peer-reviewed publications (in chronological order).**

1. **Gershoni J.M.**, G.E. Palade. 1983 Protein blotting: principles and applications. *Anal. Biochem.* **131**:1-15
2. **Gershoni, J.M.**, G. Denisova, D. Raviv, N.I. Smorodinsky, D. Buyaner 1993 HIV binding to its receptor creates specific epitopes for the CD4/gp120 complex. *FASEB J.* **7**:1185-1187.
3. Ophir, R., **J.M. Gershoni** 1995 Biased random mutagenesis of peptides: determination of mutation-frequency by a computer simulation. *Protein Engineering* **8**:143-146.
4. Stern, B., G. Denisova, D. Buyaner, D. Raviv, **J.M. Gershoni** 1997 Helical epitopes determined by low-stringency antibody screening of a combinatorial peptide library. *FASEB J.* **11**:147-153.
5. **Gershoni, J.M.**, B. Stern, G. Denisova 1997 Combinatorial libraries, epitope structure and the prediction of protein conformations. *Immunology Today.* **18**:108-110.
6. Kantor, R., **J.M. Gershoni** 1999 Distribution of the CCR5-gene 32 basepair deletion in Israeli ethnic groups. *J. AIDS.* **20**:81-84.

7. Denisova, G., M. Zerwanizer, D.A. Denisov, E. Spectorman, I. Mondor, Q. Sattentau, **J.M. Gershoni** 2000 Expansion of epitope cross-reactivity by anti-idiotypic modulation of the primary humoral response. *Mol. Immunol.* **37**:53-58.
8. Enshell-Seijffers, D., L. Smelyanski, **J.M. Gershoni** 2001 The rational design of a "type88" genetically stable peptide display vector in the filamentous bacteriophage fd. *Nuc Acid Res* **29**:e50 [<http://nar.oupjournals.org/cgi/content/full/29/10/e50?ijkey=jxx1afcZsHlBU&keytype=ref&siteid=nar>]
9. Enshell- Seijffers, D., L. Smelyanski, N. Vardinon, I. Yust, **J.M. Gershoni** 2001 Dissection of the humoral response towards an HIV epitope: a model for the analysis of antibody diversity in HIV+ individuals. *FASEB J* **15**:2112-2120
10. Denisova G., L. Lideman, E. Spectorman, R. Abulafia-Lapid, M. Burke, I. Yust, **J.M. Gershoni** 2003 Characterization of new monoclonal antibodies that discriminate between soluble and membrane CD4 and compete with human anti-CD4 autoimmune sera. *Mol. Immunol* **40**:231-239
11. Enshell-Seijffers D., D. Denisov, L. Smelyanski, R. Meyuhas, G. Gross, G. Denisova, **J.M. Gershoni** 2003 The mapping and reconstitution of a conformational discontinuous B-cell epitope of HIV-1. *J Mol Biol.* **334**:87-101
12. Meyuhas R., H. Noy, D.C. Montefiori, G. Denisova, J.M. **Gershoni**, G. Gross 2005 HIV-1 neutralization by chimeric CD4-CG10 polypeptides fused to human IgG1. *Mol. Immunol* **42**:1099-1109
13. Siman-Tov, D.D., L. Perry-Navon, N.L. Haigwood, **J.M. Gershoni** 2006 Differentiation of a passive vaccine and the humoral immune response toward infection: analysis of phage displayed peptides. *Vaccine.* **24**:607-612.
14. Tarnovitski, N., L. J. Matthews, J. Sui, **J.M. Gershoni**, W. A. Marasco 2006 Mapping a neutralizing epitope on the SARS Coronavirus spike protein: computational prediction based on affinity-selected peptides. *J Mol Biol.* **359**:190-201
15. Bublil, E. M., S. Yeger-Azuz, **J.M. Gershoni** 2006 Computational prediction of the cross-reactive neutralizing epitope corresponding to the monoclonal antibody b12 specific for HIV-1 gp120. *FASEB J* **20**:1762-1774
16. Mayrose, I., T. Shlomi, N. D. Rubinstein, **J.M. Gershoni**, E. Ruppin, R. Sharan, T. Pupko 2007 Epitope mapping using combinatorial phage-display libraries: a graph-based algorithm. *Nuc Acid Res* **35**:69-78
17. Bublil, E.M., N. Tarnovitski Freund, I. Mayrose, O. Penn, A. Roitburd-Berman, N.D. Rubinstein, T. Pupko, **J.M. Gershoni** 2007 Stepwise prediction of conformational discontinuous B-cell epitopes using the Mapitope algorithm. *Proteins* **68**:294-304
18. **Gershoni J.M.**, A. Roitburd-Berman, D.D. Siman-Tov, N. Tarnovitski Freund, Y. Weiss 2007 Epitope mapping: the first step in developing epitope-based vaccines. *BioDrugs* **21**:1-12
19. Kantor R., **J.M. Gershoni** 2007 HIV/AIDS and the genetic revolution – custom tailoring antiretroviral regimens in the management of HIV. *Int. J. Healthcare Technology and Management* **8**:478-491
20. Mayrose, I, O. Penn, E. Erez, ND Rubinstein, T Shlomi, N Tarnovitski Freund, EM Bublil, R Sharan, **J.M. Gershoni**, E Martz, T Pupko 2007 Pepitope: Epitope mapping from affinity-selected peptides. *Bioinformatics* **23**:3244-3246 (<http://pepitope.tau.ac.il/>)
21. Rubinstein, N.D., I. Mayrose, D. Halperin, D. Yekutieli, **J.M. Gerhsoni**, T. Pupko 2008 Computational characterization of B-Cell epitopes. *Mol. Immunol.* **45**:3477-3489
22. Ozukumur E., J.W. Needham, D.A. Bergstein, R. Gonzalez, M Cabodi, **J.M. Gershoni**, B.B. Goldberg and M.S. Unlu 2008 Label-free and dynamic detection of biomolecular interactions for high-throughput microarray applications. *Proc. Natl. Acad. Sci USA* **105**:7988-7992
23. **Gershoni J.M.** 2008 Molecular Decoys: antidotes, therapeutics and immunomodulators. *Curr Opin Biotechnol* **19**:644-651.
24. Bergstein D.A., E. Ozkumur, A.C. Wu, A. Yalcin, J.R. Colson, J.W. Needham, R.H. Irani, **J.M. Gershoni**, B.B. Goldberg, C. DeLisi, M.F. Ruane, M.S. Unlu 2008 Resonant cavity imaging: a meanst toward high-throughput label-free protein detection. *IEEE J Sel. Top Quant Elec.* **14**:131-139

## **Patents**

1. Charge modified nylon - U.S. patent #4,512,896, April 23, 1985; Canadian patent #1,207,737, July 15, 1986; U.S. patent #4,601,828, July 22, 1986.
2. Gradient electric field - U.S. patent #4,541,910, September 17, 1985.
3. Enzyme hydrazides - Israeli patent #71947, January 31, 1988.
4. Molecular decoys - European Patent #0329778B1, May 31, 1995; US Patent #5,770,572, June 23, 1998,

5. Complex vaccines – U.S. Patent #5,925,741 July 20, 1999, U.S. Patent #6,020,468, Feb. 1, 2000, U.S. Patent #6,143,876 Nov. 7, 2000, U.S. Patent #6,329,202 Dec 11, 2002, U.S. Patent #6,410,318 June 25, 2002, US Patent #6,812,026 B2 Nov. 2, 2004
6. Combinatorial scrambled vaccines - PCT # WO 98/20169, May 14, 1998. US Patent allowed.
7. Phage display 2 hybrid systems – U.S. Patent #6,165,722, Dec 26, 2000
8. Breast cancer vaccine - patent pending.
9. Bio-Chip diagnostics – US Patent # 6,465,241 B2 Oct. 15, 2002.
10. Phage display vector system – patent pending.
11. Prediction of conformational discontinuous epitopes – PCT #WO 2005/026379 A2.
12. Diagnosis of Tuberculosis – patent pending.